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Conference Abstract

Life on the Wellington Fault: Managing Geological Collections and Earthquake Risk

Delia T. Strong‡, Marianna Terezow‡

‡ GNS Science, Lower Hutt, New Zealand

Corresponding author: Delia T. Strong (d.strong@gns.cri.nz)

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Abstract

GNS Science is home to New Zealand's national rock, mineral and fossil collections. The National Petrology Reference Collection (NPRC) is a 'nationally significant' collection of rocks and minerals from on- and off-shore New Zealand, Antarctica and the rest of the world. The National Paleontological Collection (NPC) is another nationally significant collection; of fossil material from New Zealand, the South West Pacific region and Antarctica, with some overseas additions. Their status as nationally significant collections mean that GNS Science is contracted by the New Zealand Government to provide long-term collection management. Collectively, the NPC and NPRC constitute more than 200,000 samples, dating from the earliest days of New Zealand geology exploration in the late 1800s. The collections continue to grow by hundreds to thousands of samples per year, and are loaned nationally and internationally for scientific research. They are by far the largest collections of fossils, rocks and minerals housed in New Zealand, and are important earth science archives for the entire Zealandian Southern Ocean region.

The collections are housed on-site at GNS Science in Lower Hutt, a few hundred meters from the surface trace of the Wellington Fault and within striking distance of other active faults that could generate major earthquakes. Best estimates suggest that the Wellington Region has an average return time of about 150 years for very strong or extreme ground shaking. Such proximity to this significant, active hazard means that steps must be taken to ensure the long-term security and integrity of the collections in the event of earthquake

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shaking, as well as other natural and non-natural disasters. To that end, the collection managers have written and implemented disaster mitigation, preparedness and recovery plans for the National Petrology Reference Collection and National Paleontological Collection. Here we define the earthquake hazard posed by the Wellington Fault, assess the risk to the collections, and present steps taken to manage that risk.

Keywords

disaster preparedness, National Petrology Reference Collection, National Paleontological Collection

Presenting author

Delia T. Strong

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